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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/672,852	09/29/2000	Moriyuki Koike	197937US2	7282
22850	7590	05/06/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			REITZ, KARL	
		ART UNIT	PAPER NUMBER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/672,852	KOIKE ET AL.
Examiner	Art Unit	
Karl R. Reitz	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 29 September 2000.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-76 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-76 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 29 September 2000 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 10, 4 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Lobiondo (5,287,194).

3. In accordance with claims 1 and 10, Lobiondo discloses an image forming system with at least two units of digital copying machines 10 (figure 1) connected to each other and in which a plurality of the connected digital copying machines can share and execute one job (col. 4 lines 16-19).

4. Lobiondo further discloses that each of the digital copying machines 10 has a link copy function that a document set in one of the digital copying machines and at least two units of the digital copying machines share the job of executing copy operation on said document, and a printer function of printing according to a print request from the outside; Lobiondo discloses that the printing devices 10 of his system can share a job being processed in a linked manner (col. 4 lines 16-19), he further discloses that the type of data being printed can be print jobs sent from a computer (col. 3 lines 32-36), copy data or facsimile data (col. 3 lines 60-63 and col. 4 lines 35-39).

5. Lobiondo further discloses that receiving the print request from said outside during the copy operation based on the link copy function from its start to finish, the

digital copying machine puts the print request on hold; according to one embodiment of Lobiondo's system, newly incoming jobs are put in a printing queue (col. 5 lines 15-23 the print use of printing queues is also discussed on col. 2 lines 3-8).

6. In accordance with claims 4 and 13, Lobiondo discloses that at least two of the units of the digital copying machines are connected to each other through a network (col. 3 lines 20-24).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lobiondo in view of Sugishima (4,797,706).

9. In accordance with claims 2 and 11, Lobiondo does not discloses expressly that each of the digital copying machines outputs images printed by printer operation and images printed by copy operation, based on the link copy function, to different paper output sections.

10. Sugishima discloses that each of the digital copying machines outputs images printed by printer operation and images printed by copy operation, based on the link copy function, to different paper output sections; in Sugishima's system, output images are collated into the proper order in separate bins, i.e. output sections (col. 3 lines 31-34).

11. Lobiondo and Sugishima are combinable because they are from the same field of endeavor, namely distributing images among a plurality of image forming apparatuses.

12. Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art, to collate the output of the printing system.

13. The motivation for doing so would have been to keep the pages of different print job separate and keep the pages of one individual print job together, thereby enabling the user to more quickly assemble the completed print job.

14. Claims 3, 12, 27, 29, 30, 31, 40, 42, 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lobiondo in view of Satake (6,078,759).

15. In accordance with claims 27 and 40, Lobiondo discloses an image forming system with at least two units of digital copying machines 10 (figure 1) connected to each other and in which a plurality of the connected digital copying machines can share and execute one job (col. 4 lines 16-19).

16. Lobiondo further discloses that each of the digital copying machines 10 has a link copy function that a document set in one of the digital copying machines and at least two units of the digital copying machines share the job of executing copy operation on said document, and a printer function of printing according to a print request from the outside; Lobiondo discloses that the printing devices 10 of his system can share a job being processed in a linked manner (col. 4 lines 16-19), he further discloses that the type of data being printed can be print jobs sent from a computer (col. 3 lines 32-36), copy data or facsimile data (col. 3 lines 60-63 and col. 4 lines 35-39).

17. Lobiondo further discloses that the apparatus displays a message that it is operating (col. 6 lines 29-34).
18. Lobiondo allows the user to set the time at which the job should be completed (col. 6 lines 22-25). The system then automatically interrupts a job in progress if the inputted time cannot be achieved without interruption (col. 5 lines 6-9), implicitly allowing for an interruption setting. If the completion time is not urgent, the job is placed in the queue and printed when the apparatus is ready (col. 5 lines 15-23), implicitly allowing for a wait setting. Lobiondo allows the user to cancel a job being processed (col. 6 lines 37-38).
19. Satake explicitly discloses a wait setting and an interrupt setting; in Satake's system, the user can select connected mode 1, which allows the copiers to be separated and operated independently (obviously interrupting linked operation) and connected mode 2, which prohibits the copiers from being separated during a linked operation (waiting for linked operation to complete) (col. 3 line 63 – col. 4 line 6).
20. Lobiondo and Satake are combinable because they are from the same field of endeavor, namely distributing images among a plurality of image forming apparatuses.
21. Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art, to allow for explicit wait and interrupt settings, as disclosed by Satake.
22. The motivation for doing so would have been to allow the settings of the apparatuses to be modified to wait or interrupt modes, as disclosed by both Lobiondo and Satake, without requiring the additional steps of entering completion times and

altering completion times in order to achieve the intended results, as is required by Lobiondo.

23. In accordance with claims 3, 12, 29 and 42, Lobiondo does not discloses expressly that at least two of the units of the digital copying machines are directly connected to each other.
24. Satake discloses that at least two of the units of the digital copying machines are directly connected to each other (col. 2 lines 51-54 and figure 1 when line 9 is the direct connection).
25. In accordance with claims 30 and 43, Lobiondo discloses that at least two of the units of the digital copying machines are connected to each other through a network (col. 3 lines 20-24).
26. In accordance with claims 31 and 44, it would be inherent to dismiss the menu screen when the print job has finished printing because when the print job has finished printing, there is only one job being printed (which obviously should not be interrupted or waited upon since there nothing to interrupt or wait on it for, since there is no other job to be processed).
27. Claims 5, 7, 9, 14, 16, 18, 19, 22, 23, 26, 32, 35, 36 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lobiondo in view of Salgado (5,970,224).
28. In accordance with claims 19, 23, 32 and 36, Lobiondo discloses an image forming system with at least two units of digital copying machines 10 (figure 1) connected to each other and in which a plurality of the connected digital copying machines can share and execute one job (col. 4 lines 16-19).

29. Lobiondo further discloses that each of the digital copying machines 10 has a link copy function that a document set in one of the digital copying machines and at least two units of the digital copying machines share the job of executing copy operation on said document, and a printer function of printing according to a print request from the outside; Lobiondo discloses that the printing devices 10 of his system can share a job being processed in a linked manner (col. 4 lines 16-19), he further discloses that the type of data being printed can be print jobs sent from a computer (col. 3 lines 32-36), copy data or facsimile data (col. 3 lines 60-63 and col. 4 lines 35-39).

30. In accordance with claims 5, 7, 14, 16, 19, 23, 32 and 36, Lobiondo discloses that each of the copying machines permits a new print job (of either the type transferred from a computer or a copy job) to interrupt a print job (of either type) that is currently being processed but not yet finished (col. 4 line 66 – col. 5 line 9).

31. However, Lobiondo does not disclose expressly that this interruption process be based on the type of print job (i.e. print job transferred from a computer or copy job) being newly transmitted and currently printed (for Lobiondo it is based on urgency).

32. Salgado discloses that newly transmitted jobs are placed in a queue (col. 13 lines 27-30) and that if the priority of a newly transmitted job is higher than a job currently being processed, the job currently being processed is interrupted so that the newly transmitted job can be processed immediately (col. 13 lines 37-40). Salgado further discloses that the user sets priorities for jobs based on the type of incoming print job, namely whether it is a net print job (from a computer) or a copy job (col. 14 lines 28-50, where the numbers 1-6 show the default settings, which include prioritizing copy jobs

over print jobs and vice versa). As seen in the options 1-6, it is possible to prioritize the different types of jobs with or without allowing for interruption, thereby allowing print job transferred from a computer to be printed with a higher priority than copy jobs with or without allowing for interruption of a copy job being processed before reception of the newly transferred job, and vice versa with copy jobs prioritized over jobs transferred from a computer.

33. Lobiondo and Salgado are combinable because they are from the same field of endeavor, namely distributing print jobs to image forming apparatuses.

34. Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art, to allow Lobiondo's system to assign priority based on the type of job and interrupt accordingly, as disclosed by Salgado.

35. The motivation for doing so would have been to a) provide a "wide range of queue management so that the corresponding system can accommodate for both the specific needs of many different users and the many different types of uses demanded by those users" (Salgado: col. 3 lines 33-37) and b) "provide a queue management system for a multifunctional printing system facilitating the appropriate throughput of all types of jobs which might be encountered by the multifunctional printing system" (Salgado: col. 3 lines 39-41).

36. In accordance with claims 9 and 18, Lobiondo discloses that once a job that interrupted a previous job is finished printing, the job that was interrupted is finished (col. 15 lines 51-53).

37. In accordance with claims 22, 26, 35 and 29, Lobiondo discloses that at least two of the units of the digital copying machines are connected to each other through a network (col. 3 lines 20-24).

38. Claims 6, 8, 15, 17, 21, 25, 27, 34 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lobiondo in view of Salgado in further view of Satake.

39. In accordance with claims 6, 8, 15 and 17, Salgado discloses that the printer operation (printing a job transferred from a computer) can be set to have a higher priority than a copy job (col. 14 lines 28-50), thereby allowing or prohibiting the printer operation from interrupting a copy operation currently being processed (col. 13 lines 37-40), as described above for claim 5.

40. However, Salgado does not disclose expressly that permission or non-permission is set for allowing a “net print job” to interrupt a copy job (permission or non-permission is set indirectly as described in the preceding paragraph).

41. Satake discloses that permission or non-permission of a net print job to interrupt a copy job is set at each of the copiers; in Satake’s system, connected mode 1 allows the copiers to be separated and operated independently and connected mode 2 prohibits the copiers from being separated during a linked operation (col. 3 line 63 – col. 4 line 6).

42. Lobiondo, Salgado and Satake are combinable because they are from the same field of endeavor, namely distributing print jobs to image forming apparatuses.

43. Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art, to allow the permissions to be set more directly, as disclosed by Satake.

44. The motivation for doing so would have been to allow the user to change the operation of the copiers as needed without reprogramming the priorities (as required by Salgado), thereby allowing the system to be more responsive to the user's needs.

45. In accordance with claims 21, 25, 34 and 38, Satake discloses that at least two of the units of the digital copying machines are directly connected to each other (col. 2 lines 51-54 and figure 1 when line 9 is the direct connection).

46. Claims 20, 24, 33 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lobiondo in view of Salgado in further view of Sugishima.

47. In accordance with claims 20, 24, 33 and 37, Lobiondo and Salgado do not disclose expressly that each of the digital copying machines outputs images printed by printer operation and images printed by copy operation, based on the link copy function, to different paper output sections.

48. Sugishima discloses that each of the digital copying machines outputs images printed by printer operation and images printed by copy operation, based on the link copy function, to different paper output sections; in Sugishima's system, output images are collated into the proper order in separate bins, i.e. output sections (col. 3 lines 31-34).

49. Lobiondo, Salgado and Sugishima are combinable because they are from the same field of endeavor, namely distributing print jobs to image forming apparatuses.

50. Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art, to collate the output of the printing system.

51. The motivation for doing so would have been to keep the pages of different print job separate and keep the pages of one individual print job together, thereby enabling the user to more quickly assemble the completed print job.

52. Claims 28 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lobiondo in view of Satake in further view of Sugishima.

53. In accordance with claims 28 and 41, Lobiondo and Satake do not disclose expressly that each of the digital copying machines outputs images printed by printer operation and images printed by copy operation, based on the link copy function, to different paper output sections.

54. Sugishima discloses that each of the digital copying machines outputs images printed by printer operation and images printed by copy operation, based on the link copy function, to different paper output sections; in Sugishima's system, output images are collated into the proper order in separate bins, i.e., output sections (col. 3 lines 31-34).

55. Lobiondo, Satake and Sugishima are combinable because they are from the same field of endeavor, namely distributing images among a plurality of image forming apparatuses.

56. Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art, to collate the output of the printing system.

57. The motivation for doing so would have been to keep the pages of different print job separate and keep the pages of one individual print job together, thereby enabling the user to more quickly assemble the completed print job.

58. Claims 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73 and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satake in view of Salgado.

59. In accordance with claims 45, 49, 53, 57, 61, 65, 69 and 73, Satake discloses an image forming system with at least two units of digital copying machines 1 and 2 (figure 1) connected to each other (col. 2 lines 49-54), each of which has a link copy function that a digital copying machine determined as a master machine scans an image of a document as an object to be copied and transfers the image of the scanned document to at least one of the digital copying machines as a slave machine, and that said master machine and said slave machine share the job of printing the scanned document image; in Satake's system as disclosed, copier 1 acts as the master by controlling the operation of copier 2, the slave machine, to allocate a portion of a job to copier 2 and jointly print the jobs.

60. Satake further discloses that when the start of a new copy operation is instructed during a copy operation that is being processed, the master machine allows for the interruption of the printing operation and execution of the new request, by allowing the copiers each to perform one of the jobs, thus either the master or the slave machine would continue the execution of the original job (col. 3 lines 1-8).

61. However, Satake does not disclose expressly that the copying machines have a function to print according to a print request from the outside or that the printing

operation of data transferred from the outside is interrupted when a linked copy operation is requested, so that the linked copy operation can be performed.

62. Salgado discloses that newly transmitted jobs are placed in a queue (col. 13 lines 27-30) and that if the priority of a newly transmitted job is higher than a job currently being processed, the job currently being processed is interrupted so that the newly transmitted job can be processed immediately (col. 13 lines 37-40). Salgado further discloses that the user sets priorities for jobs based on the type of incoming print job, namely whether it is a net print job (from a computer) or a copy job (col. 14 lines 28-50, where the numbers 1-6 show the default settings, which include prioritizing copy jobs over print jobs and vice versa). As seen in the options 1-6, it is possible to prioritize the different types of jobs with or without allowing for interruption, thereby allowing print job transferred from a computer to be printed with a higher priority than copy jobs with or without allowing for interruption of a copy job being processed before reception of the newly transferred job, and vice versa with copy jobs prioritized over jobs transferred from a computer.

63. Satake and Salgado are combinable because they are from the same field of endeavor, namely distributing print jobs to image forming apparatuses.

64. Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art, to allow Satake's system to assign priority based on the type of job and interrupt accordingly, as disclosed by Salgado, and to allow the other machine in the system to continue processing the original job, as disclosed by Satake.

65. The motivation for doing so would have been to a) provide a “wide range of queue management so that the corresponding system can accommodate for both the specific needs of many different users and the many different types of uses demanded by those users” (Salgado: col. 3 lines 33-37) and b) “provide a queue management system for a multifunctional printing system facilitating the appropriate throughput of all types of jobs which might be encountered by the multifunctional printing system” (Salgado: col. 3 lines 39-41).

66. In accordance with claims 47, 51, 55, 59, 63, 67, 71 and 75, Satake discloses that at least two of the units of the digital copying machines are directly connected to each other (col. 2 lines 51-54 and figure 1 when line 9 is the direct connection).

67. Claims 46, 50, 54, 58, 62, 66, 70 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satake in view of Salgado in further view of Sugishima.

68. In accordance with claims 46, 50, 54, 58, 62, 66, 70 and 74, Satake and Salgado do not discloses expressly that each of the digital copying machines outputs images printed by printer operation and images printed by copy operation, based on the link copy function, to different paper output sections.

69. Sugishima discloses that each of the digital copying machines outputs images printed by printer operation and images printed by copy operation, based on the link copy function, to different paper output sections; in Sugishima’s system, output images are collated into the proper order in separate bins, i.e. output sections (col. 3 lines 31-34).

70. Satake, Salgado and Sugishima are combinable because they are from the same field of endeavor, namely distributing print jobs among of image forming apparatuses.

71. Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art, to collate the output of the printing system.

72. The motivation for doing so would have been to keep the pages of different print job separate and keep the pages of one individual print job together, thereby enabling the user to more quickly assemble the completed print job.

73. Claims 48, 52, 56, 60, 64, 68, 72 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satake in view of Salgado in further view of Lobiondo.

74. In accordance with claims 48, 52, 56, 60, 64, 68, 72 and 76, Satake and Salgado do not discloses expressly that at least two of the units of the digital copying machines are connected to each other through a network.

75. Lobiondo discloses that at least two of the units of the digital copying machines are connected to each other through a network (col. 3 lines 20-24).

76. Satake, Salgado and Lobiondo are combinable because they are from the same field of endeavor, namely distributing print jobs among of image forming apparatuses.

77. Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art, to collate the output of the printing system.

78. The motivation for doing so would have been to allow computers on the network to communicate with each of the printing apparatuses.

Contact Information

79. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl R. Reitz whose telephone number is (703) 305-8696. The examiner can normally be reached on Monday-Friday 8:00-4:30.

80. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (703) 305-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

81. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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